DOCKET NO.: CEPH-2313 (CP188-C)

Application No.: 10/685,923

Office Action Dated: August 4, 2004

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claims 1 to 26 (cancelled)

27. (currently amended) A compound having the Formula I:

$$Q \longrightarrow (Aaa)_n \longrightarrow (N \longrightarrow M \longrightarrow C \longrightarrow)_q \longrightarrow NH \longrightarrow C \longrightarrow Z$$

$$\downarrow \qquad \qquad \downarrow \qquad \qquad \downarrow \qquad \qquad \downarrow$$

$$R_3 \qquad \qquad \qquad H$$

$$I$$

wherein:

Q has the formula G-B-G-B (CHR⁴)_V where R⁴-is independently H-or alkyl having from 1 to 4 carbons;

v is 0:

B is selected from the group consisting of -C(=O), -OC(=O), -S, -SO, $-S(O)_2$ - and a bond;

M is a carbon atom;

G is selected from the group consisting of H, a blocking group, lower alkyl, lower alkenyl, aryl having from about 6 to about 14 carbons, and arylalkyl having from about 7 to about 15 carbons, said alkyl and arylalkyl groups being optionally substituted with one or more J groups;

J is piperazinyl-CH₂- optionally substituted by a J¹ group; selected from the group consisting of halogen, CN, nitro, lower alkyl, eycloalkyl, heterocycloalkyl, heteroalkyl, halogenated alkyl, aryloxyalkyl, alkylthio, alkylsulfonyl, aryl, heteroaryl, arylalkyl, arylalkyloxy, arylsulfonyl, heteroarylsulfonyl, alkoxycarbonyl, alkoxyalkyl, acyl, alkoxy, hydroxy, carboxy, hydroxyalkyl, amino, alkylamino, and aminoalkyl, said amino group or said amino group of said aminoalkyl or alkylamino group being optionally substituted with an acyl group, an alkoxy group, or with 1 to 3 aryl, lower alkyl, cycloalkyl, or alkoxyalkyl groups; and said aryl, heteroaryl,

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heterocycloalkyl, and heteroalkyl groups being further optionally substituted by a J¹

group;

J¹ is selected from the group consisting of halogen, CN, nitro, lower alkyl, cycloalkyl, heterocycloalkyl, heteroalkyl, halogenated alkyl, aryloxyalkyl, alkylthio, alkylsulfonyl, aryl, heteroaryl, arylalkyl, arylalkyloxy, arylsulfonyl, heteroarylsulfonyl, alkoxycarbonyl, alkoxyalkyl, acyl, alkoxy, hydroxy, carboxy, hydroxyalkyl, amino, alkylamino, and aminoalkyl, said amino group or said amino group of said aminoalkyl or alkylamino group being optionally substituted with an acyl group, an alkoxy group, or with 1 to 3 aryl, lower alkyl, cycloalkyl, or alkoxyalkyl groups; and said aryl, heteroaryl, heterocycloalkyl, and heteroalkyl groups being further optionally substituted by a J² group;

J² is selected from a group consisting of halogen, CN, nitro, lower alkyl, halogenated alkyl, alkylthio, alkylsulfonyl, alkoxycarbonyl, alkoxyalkyl, acyl, alkoxy, hydroxy, carboxy, hydroxyalkyl, amino, alkylamino, and aminoalkyl;

each Aaa is independently an amino acid;

n is 0 or 1;

R¹ is and R² are independently selected from the group consisting of H, alkyl having from one to about 6 carbons, arylalkyl having from about 7 to about 15 carbons, alkoxyalkyl, and a side chain of a naturally occurring amino acid in the R or S configuration, said alkyl, arylalkyl, and alkoxyalkyl groups being optionally substituted with phenyl; one or more J groups;

 R^2 is arylalkyl having from about 7 to about 15 carbons or alkoxyalkyl;

R³ is selected from the group consisting of H, alkyl having from one to about 6 carbons, arylalkyl having from about 7 to about 15 carbons, alkoxyalkyl, a side chain of a naturally occurring amino acid in the R or S configuration, C(=O)R⁷, and S(=O)₂R⁷, a blocking group, and said alkyl, arylalkyl, and alkoxyalkyl groups being optionally substituted with one or more J-groups;

R⁷ is selected from the group consisting of aryl having from about 6 to about 14 carbons, heteroaryl having from about 5 to about 14 ring atoms, arylalkyl having from about 7 to about 15 carbons, alkyl having from 1 to about 10 carbons, said aryl, heteroaryl, arylalkyl and alkyl groups being optionally substituted with one or DOCKET NO.: CEPH-2313 (CP188-C)

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more J groups, heteroalkyl having from 2 to about 7 carbons, alkoxy having from about 1 to about 10 carbons, and amino optionally substituted with 1 or more alkyl groups;

q is 0 or 1;

Z is $C(=O)C(=O)NH-X-A^1-K$;

X is a bond;

A¹ is a lower alkylene;

K is $N(R^{10})SO_2R^8$ or $SO_2N(R^8)(R^{10})$;

R⁸ is an aryl-or heterocyclyl, said aryl or heterocyclyl groups being optionally substituted with one <u>J group</u>; or more J groups; and

R¹⁰ is selected from the group consisting of H and lower alkyl;

or a pharmaceutically acceptable salt thereof.

- 28. (previously presented) The compound of claim 27, wherein n is 0, q is 1, B is a bond, and G is H.
- 29. (previously presented) The compound of claim 27, wherein R¹ is the side chain of a naturally-occurring amino acid.
- 30. (previously presented) The compound of claim 27, wherein R^3 is $-S(=O)_2R^7$.
- 31. (previously presented) The compound of claim 27, wherein R² is benzyl or alkoxyalkyl.
- 32. (previously presented) The compound of claim 27, wherein A¹ is -CH₂-CH₂-, -CH₂-CH(CH₃)-, or -(CH₃)CH-CH₂-.
- 33. (previously presented) The compound of claim 27, wherein R¹ is a serine side chain, which is optionally capped with a benzyl group.
- 34. (previously presented) The compound of claim 33, wherein M is a carbon atom in the D configuration.

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35. (currently amended) The compound of claim 27, wherein R² is benzyl, R⁷ is methyl, and R⁸ is substituted phenyl, unsubstituted phenyl, substituted heteroaryl, or unsubstituted heteroaryl.

36. (cancelled)

- 37. (previously presented) The compound of claim 27, wherein n is 0, q is 1, R¹ is the side chain of an amino acid in the D- or L-configuration, R³ is -S(=O)₂R⁷, G is H, B is a bond, and R² is benzyl or alkoxyalkyl.
- 38. (currently amended) The compound of claim 27, wherein R¹ is a serine side chain in the D-configuration in which the hydroxyl group is capped with benzyl, R² is benzyl, R⁷ is methyl, and R⁸ is substituted or unsubstituted phenyl or substituted or unsubstituted heteroaryl.
- 39. (currently amended) A The compound of claim 27 having the formula:

wherein

W is selected from the group consisting of: Ms-D-Ser(Bn), Ms-L-Ser(Bn), Ms-(D,L) Phenylgly, Ms-D-Thr(Bn), Ms-D-Phe, and Cbz-Leu-Leu;

R is selected from the group consisting of:

- -CH₂CH₂NHSO₂((4(CH₃COPh) piperazin-1-yl)CH₂Ph);
- -CH₂CH₂NHSO₂((4-(PhCH₂)piperazin-1-yl)CH₂Ph);
- -CH₂CH₂NHSO₂((4-(CH₃CO)piperazin-1-yl)CH₂Ph);
- -CH₂CH₂NHSO₂((4-Pyrid-2-yl) piperazine-1-yl)CH₂Ph);
- -CH₂CH₂NHSO₂(4-ethylpiperazin-1-yl)CH₂Ph);

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-CH₂CH₂NHSO₂((4-(CH₃SO₂)piperazin-1-yl)CH₂Ph); and -CH₂CH₂NHSO₂((4-pyrimid-2-yl)piperazine-1-yl)CH₂Ph), or a pharmaceutically acceptable salt thereof.

40. (previously presented) The compound of claim 39, wherein W and R are selected in accordance with the following table:

	W	R
1	Ms-D-Ser (Bn)	-CH ₂ CH ₂ NHSO ₂ ((4-(CH ₃ COPh)piperazin-1-yl)CH ₂ Ph)
2	Ms-D-Ser (Bn)	-CH ₂ CH ₂ NHSO ₂ ((4-(PhCH ₂)piperazin-1-yl)CH ₂ Ph)
3 .	Ms-D-Ser (Bn)	-CH ₂ CH ₂ NHSO ₂ ((4-(CH ₃ CO)piperazin-1-yl)CH ₂ Ph)
4	Ms-D-Ser (Bn)	-CH ₂ CH ₂ NHSO ₂ ((4-pyrid-2-yl)piperazine-1-yl)CH ₂ Ph)
5	Ms-D-Ser (Bn)	-CH ₂ CH ₂ NHSO ₂ (4-ethylpiperazin-1-yl)CH ₂ Ph)
6	Ms-D-Ser (Bn)	-CH ₂ CH ₂ NHSO ₂ ((4-(CH ₃ SO ₂)piperazin-1-yl)CH ₂ Ph)
7	Ms-D-Ser (Bn)	-CH ₂ CH ₂ NHSO ₂ ((4-pyrimid-2-yl)piperazine-1-yl)CH ₂ Ph),

or a pharmaceutically accepted salt thereof.

41. (cancelled)

42. (currently amended) A pharmaceutical composition for inhibiting a serine protease or a cysteine protease comprising a compound of claim 39 27 and a pharmaceutically acceptable carrier.

43. (cancelled)

44. (new) A pharmaceutical composition for inhibiting a serine protease or a cysteine protease comprising a compound of claim 40 and a pharmaceutically acceptable carrier.